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* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

 NEWS  1           Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2           "Ask CAS" for self-help around the clock
 NEWS  3  FEB 28   PATDPAFULL - New display fields provide for legal status
                   data from INPADOC
 NEWS  4  FEB 28   BABS - Current-awareness alerts (SDIs) available
 NEWS  5  MAR 02   GBFULL: New full-text patent database on STN
 NEWS  6  MAR 03   REGISTRY/ZREGISTRY - Sequence annotations enhanced
 NEWS  7  MAR 03   MEDLINE file segment of TOXCENTER reloaded
 NEWS  8  MAR 22   KOREAPAT now updated monthly; patent information enhanced
 NEWS  9  MAR 22   Original IDE display format returns to REGISTRY/ZREGISTRY
 NEWS  10 MAR 22   PATDPASPC - New patent database available
 NEWS  11 MAR 22   REGISTRY/ZREGISTRY enhanced with experimental property tags
 NEWS  12 APR 04   EPFULL enhanced with additional patent information and new
                   fields
 NEWS  13 APR 04   EMBASE - Database reloaded and enhanced
 NEWS  14 APR 18   New CAS Information Use Policies available online
 NEWS  15 APR 25   Patent searching, including current-awareness alerts (SDIs),
                   based on application date in CA/CAplus and USPATFULL/USPAT2
                   may be affected by a change in filing date for U.S.
                   applications.
 NEWS  16 APR 28   Improved searching of U.S. Patent Classifications for
                   U.S. patent records in CA/CAplus
 NEWS  17 MAY 23   GBFULL enhanced with patent drawing images
 NEWS  18 MAY 23   REGISTRY has been enhanced with source information from
                   CHEMCATS
 NEWS  19 JUN 06   STN Patent Forums to be held in June 2005
 NEWS  20 JUN 06   The Analysis Edition of STN Express with Discover!
                   (Version 8.0 for Windows) now available
 NEWS  21 JUN 13   RUSSIAPAT: New full-text patent database on STN
 NEWS  22 JUN 13   FRFULL enhanced with patent drawing images
 NEWS  23 JUN 20   MEDICONF to be removed from STN

 NEWS EXPRESS  JUNE 13 CURRENT WINDOWS VERSION IS V8.0, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005

 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS INTER    General Internet Information
 NEWS LOGIN    Welcome Banner and News Items
 NEWS PHONE    Direct Dial and Telecommunication Network Access to STN
 NEWS WWW      CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
specific topic.

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  research.  Use for software development or design or implementation
  of commercial gateways or other similar uses is prohibited and may
  result in loss of user privileges and other penalties.

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FILE 'HOME' ENTERED AT 17:02:13 ON 22 JUN 2005

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FULL ESTIMATED COST	0.21	0.21

FILE 'CAPLUS' ENTERED AT 17:02:27 ON 22 JUN 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 22 Jun 2005 VOL 142 ISS 26
FILE LAST UPDATED: 21 Jun 2005 (20050621/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s "heating value"
        681266 "HEATING"
        853363 "VALUE"
L1        4967 "HEATING VALUE"
                ("HEATING"(W)"VALUE")

=> s l1 and chemiluminesc$

=> s l1 and chemiluminesc?
         29517 CHEMILUMINESC?
L2           1 L1 AND CHEMILUMINESC?

=> d

L2   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2005 ACS on STN
Full Text
AN   1992:35785  CAPLUS
DN   116:35785
TI   The identification of human semen by a chemiluminescent assay of choline
AU   Manabe, Fumiko; Tsutsumi, Akira; Yamamoto, Yuji; Hashimoto, Yoshiaki;
     Ishizu, Hideo
CS   Dep. Legal Med., Kochi Med. Sch., Kochi, 783, Japan
SO   Nippon Hoigaku Zasshi (1991), 45(3), 205-15
     CODEN: NHOZAX; ISSN: 0047-1887
DT   Journal
LA   English


=> d 1 kwic

L2   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2005 ACS on STN
TI   The identification of human semen by a chemiluminescent assay of choline
AB   A method for proving the presence of semen has been established by
     utilizing chemiluminescence for an assay of choline, a nonprotein
     constituent of semen, and medicolegal testings were carried out to
```

evaluate its effectiveness.. . . and seminal stains were heated to 200° for 30 min, the choline content still retained 71.6% and 66.9% of the pre-**heating value**, resp. As for specimens of semen and seminal stains that were stored at room temp. for 12 mo, about 1/3. . . . semen in the vaginal contents, collected on medicolegal autopsy, could also be demonstrated by the detection of choline. Thus, utilizing **chemiluminescence** for detecting choline is considered useful for establishing medicolegal proof of the presence of semen.

ST choline **chemiluminescence** human semen identification forensic

IT Legal chemistry and medicine
(choline **chemiluminescence** assay for human semen identification in relation to)

IT Apple
Asparagus
Burdock
Cabbage
Carrot
Citrus medica
Colocasia esculenta
Cosmetics
Cucumber
Egg white
Egg yolk
Horseradish
Japanese lime
Leek
Onion
Orange
Pea
Pear
Persimmon
Radish
Strawberry
(choline detn. in, by **chemiluminescence** assay, human semen identification in relation to)

IT Semen
(identification of, of human, by choline **chemiluminescence** assay)

IT Pharmaceuticals
(intravaginal, choline of human semen response to, **chemiluminescence** assay in relation to)

IT Hair preparations
(creams, choline detn. in, by **chemiluminescence** assay, human semen identification in relation to)

IT Capsicum annuum annuum
(grossum group, choline detn. in, by **chemiluminescence** assay, human semen identification in relation to)

IT Temperature effects, biological
(heat, choline detn. in human semen by **chemiluminescence** assay in relation to)

IT Frozen desserts
(ice cream, choline detn. in, by **chemiluminescence** assay, human semen identification in relation to)

IT 62-49-7, Choline
RL: ANST (Analytical study)
(**chemiluminescent** assay of, for human semen identification)

IT 443-48-1 1405-10-3, New France F 7681-93-8, Pimafucin 9016-45-9, Mylura 24168-96-5, Adestan G 100
RL: ANST (Analytical study)
(choline of human semen response to, **chemiluminescence** assay in relation to)

```
=> s "heating value" or "energy content" or (caloric or calorific) (w) (value or content)
        681266 "HEATING"
        853363 "VALUE"
          4967 "HEATING VALUE"
                 ("HEATING"(W)"VALUE")
       1795991 "ENERGY"
       1338568 "CONTENT"
          3680 "ENERGY CONTENT"
                 ("ENERGY"(W)"CONTENT")
          8614 CALORIC
         10407 CALORIFIC
        853363 VALUE
       1338568 CONTENT
         10492 (CALORIC OR CALORIFIC) (W) (VALUE OR CONTENT)
L3       18166 "HEATING VALUE" OR "ENERGY CONTENT" OR (CALORIC OR CALORIFIC)
               (W) (VALUE OR CONTENT)

=> s l3 and chemiluminesc?
         29517 CHEMILUMINESC?
L4          14 L3 AND CHEMILUMINESC?

=> d 1-14

L4   ANSWER 1 OF 14  CAPLUS  COPYRIGHT 2005 ACS on STN
Full Text
AN   2000:726044  CAPLUS
DN   134:17910
TI   Laser-Induced Dissociation of an Energetic Polymer: A Spectroscopic Study
     of the Gaseous Products
AU   Belau, L.; Ben-Eliahu, Y.; Hecht, I.; Kop, G.; Haas, Y.; Welner, S.
CS   Department of Physical Chemistry and the Farkas Center for Light Induced
     Processes, The Hebrew University of Jerusalem, Jerusalem, 91904, Israel
SO   Journal of Physical Chemistry B (2000), 104(44), 10154-10161
     CODEN: JPCBFK; ISSN: 1089-5647
PB   American Chemical Society
DT   Journal
LA   English
RE.CNT  30    THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4   ANSWER 2 OF 14  CAPLUS  COPYRIGHT 2005 ACS on STN
Full Text
AN   1992:217711  CAPLUS
DN   116:217711
TI   New instrumental technique for the analysis of high energy content fuels
AU   Hutte, R.
CS   Sievers Res. Inst., Boulder, CO, USA
SO   Report (1990), WRDC-TR-89-2018; Order No. AD-A230 130, 29 pp.  Avail.:
     NTIS
     From: Gov. Rep. Announce. Index (U. S.) 1991, 91(12), Abstr. No. 131,046
DT   Report
LA   English

L4   ANSWER 3 OF 14  CAPLUS  COPYRIGHT 2005 ACS on STN
Full Text
AN   1992:58002  CAPLUS
DN   116:58002
TI   Effects of an essential fatty acid-supplemented diet on leukotriene
     B4-induced rat neutrophil functions
AU   Gyllenhammar, H.; Palmblad, J.; Ringertz, B.
CS   Karolinska Inst., Soedersjukhuset, Stockholm, S-10064, Swed.
```

SO Scandinavian Journal of Clinical and Laboratory Investigation (1991), 51(6), 525-32
CODEN: SJCLAY; ISSN: 0036-5513
DT Journal
LA English

L4 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1992:35785 CAPLUS
DN 116:35785
TI The identification of human semen by a **chemiluminescent** assay of choline
AU Manabe, Fumiko; Tsutsumi, Akira; Yamamoto, Yuji; Hashimoto, Yoshiaki; Ishizu, Hideo
CS Dep. Legal Med., Kochi Med. Sch., Kochi, 783, Japan
SO Nippon Hoigaku Zasshi (1991), 45(3), 205-15
CODEN: NHOZAX; ISSN: 0047-1887
DT Journal
LA English

L4 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1990:165322 CAPLUS
DN 112:165322
TI Crossed-beam study of the reaction of van der Waals molecule atomic hydrogen + nitric oxide dimer
AU Honma, Kenji; Kajimoto, Okitsugu
CS Dep. Pure Appl. Sci., Univ. Tokyo, Tokyo, 153, Japan
SO Journal of Chemical Physics (1990), 92(3), 1657-60
CODEN: JCPSA6; ISSN: 0021-9606
DT Journal
LA English

L4 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1986:589919 CAPLUS
DN 105:189919
TI Essential fatty acid deficiency in rats: effects on arachidonate metabolism, generation of cyclooxygenase products and functional responses in neutrophils
AU Gyllenhammar, Hans; Ringertz, Bo; Becker, Wulf; Svensson, Jan; Palmblad, Jan
CS Karolinska Inst., Soedersjukhuset, Stockholm, S100 64, Swed.
SO Immunology Letters (1986), 13(4), 185-9
CODEN: IMLED6; ISSN: 0165-2478
DT Journal
LA English

L4 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1981:505752 CAPLUS
DN 95:105752
TI Local mode excitation and direct unimolecular reaction rate measurements in tetramethyldioxetane
AU Cannon, B. D.; Crim, F. F.
CS Dep. Chem., Univ. Wisconsin, Madison, WI, 53706, USA
SO Journal of Chemical Physics (1981), 75(4), 1752-61
CODEN: JCPSA6; ISSN: 0021-9606
DT Journal
LA English

L4 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text

AN 1981:200271 CAPLUS
DN 94:200271
TI Structural and dynamic studies of materials possessing high **energy content**
AU Turro, Nicholas J.
CS Dep. Chem., Columbia Univ., New York, NY, USA
SO Report (1980), AFOSR-TR-80-1287; Order No. AD-A093213, 16 pp. Avail.: NTIS
From: Gov. Rep. Announce. Index (U. S.) 1981, 81(9), 1803
DT Report
LA English

L4 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1980:197349 CAPLUS
DN 92:197349
TI Chemical mechanisms of chemi- and bioluminescence. Reactions of high **energy content** organic compounds
AU Schuster, Gary B.; Dixon, Brian; Koo, Ja-Young; Schmidt, Steven P.; Smith, J. P.
CS Dep. Chem., Univ. Illinois, Urbana, IL, 61801, USA
SO Photochemistry and Photobiology (1979), 30(1, Chemi- Bioenergized Processes), 17-26
CODEN: PHCBAP; ISSN: 0031-8655
DT Journal
LA English

L4 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1979:54106 CAPLUS
DN 90:54106
TI Chemical mechanisms of chemi- and bioluminescence. Reactions of high **energy content** organic compounds
AU Schuster, Gary B.; Dixon, Brian; Koo, Ja-Young; Schmidt, Steven P.; Smith, J. P.
CS Dep. Chem., Univ. Illinois, Urbana, IL, USA
SO Report (1978), Order No. AD-A056590, 36 pp. Avail.: NTIS
From: Gov. Rep. Announce. Index (U. S.) 1978, 78(21), 103
DT Report
LA English

L4 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1978:520539 CAPLUS
DN 89:120539
TI Structural and dynamic studies of materials possessing high **energy content**
AU Turro, Nicholas J.
CS Dep. Chem., Columbia Univ., Ithaca, NY, USA
SO U. S. NTIS, AD Rep. (1978), AD-A052936, 13 pp. Avail.: NTIS
From: Gov. Rep. Announce. Index (U. S.) 1978, 78(15), 104
CODEN: XADRCH; ISSN: 0099-8575
DT Report
LA English

L4 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1975:131546 CAPLUS
DN 82:131546
TI Structural and dynamic studies of materials possessing high **energy content**
AU Turro, Nicholas J.
CS Dep. Chem., Columbia Univ., New York, NY, USA
SO U. S. N. T. I. S., AD Rep. (1974), No. 783262/9GA, 11 pp. Avail.: NTIS, 3.00 dollars

From: Govt. Rep. Announce. (U. S.) 1974, 74(20), 85
CODEN: XADRCH
DT Report
LA English

L4 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1949:26072 CAPLUS
DN 43:26072
OREF 43:4828g-h
TI The prospects of jet-reaction flight. I
AU Saenger, Eugen
SO Journal of the American Rocket Society (1949), No. 76, 27-41
CODEN: JARSA2; ISSN: 0095-9073
DT Journal
LA Unavailable

L4 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1921:14895 CAPLUS
DN 15:14895
OREF 15:2765b-i,2766a-i
TI Chemical kinetics
AU Pratolongo, Ugo
SO Gazzetta Chimica Italiana (1918), 48(I), 121-82
From: Chem. Zentr. 1919, I-II, 421-3
CODEN: GCITA9; ISSN: 0016-5603
DT Journal
LA Unavailable

=> d bro
:1

L4 ANSWER 1 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 2000:726044 CAPLUS
DN 134:17910
TI Laser-Induced Dissociation of an Energetic Polymer: A Spectroscopic Study of the Gaseous Products
AU Belau, L.; Ben-Eliahu, Y.; Hecht, I.; Kop, G.; Haas, Y.; Welner, S.
CS Department of Physical Chemistry and the Farkas Center for Light Induced Processes, The Hebrew University of Jerusalem, Jerusalem, 91904, Israel
SO Journal of Physical Chemistry B (2000), 104(44), 10154-10161
CODEN: JPCBFK; ISSN: 1089-5647
PB American Chemical Society
DT Journal
LA English
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Full Text
AN 1992:217711 CAPLUS
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TI New instrumental technique for the analysis of high energy content fuels
AU Hutte, R.
CS Sievers Res. Inst., Boulder, CO, USA
SO Report (1990), WRDC-TR-89-2018; Order No. AD-A230 130, 29 pp. Avail.: NTIS
From: Gov. Rep. Announce. Index (U. S.) 1991, 91(12), Abstr. No. 131,046

DT Report
LA English
:ab

L4 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
AB The feasibility of a catalytic (e.g., with Au, Pd, and Pt) redox **chemiluminescence** detector (RCD) was evaluated for the selective detn. of cycloalkanes and antioxidants in jet fuels. The Au catalyst at 300.degree. gave the best selectivity for cycloalkanes (40:1 for hexane and 3:1 for nonane), which decreased with increasing temp. The Pd and Pt catalysts did not demonstrate adequate selectivity. Overall, the catalysts did not exhibit sufficient selectivity to permit detection of cycloalkanes (vs. acyclic alkanes). In contrast, the selectivity of the RCD for easily oxidized compds. (e.g., phenols) vs. hexane was typically 104-106:1.
:3

L4 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
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SO Scandinavian Journal of Clinical and Laboratory Investigation (1991), 51(6), 525-32
CODEN: SJCLAY; ISSN: 0036-5513
DT Journal
LA English
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SO Nippon Hoigaku Zasshi (1991), 45(3), 205-15
CODEN: NHOZAX; ISSN: 0047-1887
DT Journal
LA English
:5

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AN 1990:165322 CAPLUS
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TI Crossed-beam study of the reaction of van der Waals molecule atomic hydrogen + nitric oxide dimer
AU Honma, Kenji; Kajimoto, Okitsugu
CS Dep. Pure Appl. Sci., Univ. Tokyo, Tokyo, 153, Japan
SO Journal of Chemical Physics (1990), 92(3), 1657-60
CODEN: JCPSA6; ISSN: 0021-9606
DT Journal
LA English
:6

L4 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
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DN 105.:189919
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SO Immunology Letters (1986), 13(4), 185-9
CODEN: IMLED6; ISSN: 0165-2478
DT Journal
LA English
:7

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DN 95:105752
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CS Dep. Chem., Univ. Wisconsin, Madison, WI, 53706, USA
SO Journal of Chemical Physics (1981), 75(4), 1752-61
CODEN: JCPSA6; ISSN: 0021-9606
DT Journal
LA English
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AU Turro, Nicholas J.
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SO Report (1980), AFOSR-TR-80-1287; Order No. AD-A093213, 16 pp. Avail.: NTIS
From: Gov. Rep. Announce. Index (U. S.) 1981, 81(9), 1803
DT Report
LA English
:ab

L4 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
AB Investigations were made in the following areas: (1) Reactivities and efficiencies of reaction of singlet O with org. compds.; (2) Reaction of singlet O with strained org. mols.; (3) Generation of singlet O in a mol. beam; (4) Generation and dynamic anal. of reactive diradicals, such as trimethylenemethanes and carbenes in fluid soln. These studies are intended to advance the knowledge of the nature and behavior of excited mols. and their emission characteristics. The available mechanisms were studied for producing excited mols. selectively and in high yield via **chemiluminescent** reactions. The investigation of singlet O chem. and **chemiluminescent** reactions may lead to the development of novel chem. lasers and of means of protecting polymers against oxidative degrdn.
:9

L4 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1980:197349 CAPLUS
DN 92:197349
TI Chemical mechanisms of chemi- and bioluminescence. Reactions of high **energy content** organic compounds

AU Schuster, Gary B.; Dixon, Brian; Koo, Ja-Young; Schmidt, Steven P.; Smith, J. P.
CS Dep. Chem., Univ. Illinois, Urbana, IL, 61801, USA
SO Photochemistry and Photobiology (1979), 30(1, Chemi- Bioenergized Processes), 17-26
CODEN: PHCBAP; ISSN: 0031-8655
DT Journal
LA English
:ab

L4 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
AB The chem. of high **energy content** mols. was studied with particular ref. to the mechanisms by which these compds. rearrange, generating electronically excited states. Chem. generation of cage ion intermediates is the most important mechanism operating in the generation of these states and it is concluded that this mechanism is applicable to many chemi- and bioluminescent processes.
:10

L4 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1979:54106 CAPLUS
DN 90:54106
TI Chemical mechanisms of chemi- and bioluminescence. Reactions of high **energy content** organic compounds
AU Schuster, Gary B.; Dixon, Brian; Koo, Ja-Young; Schmidt, Steven P.; Smith, J. P.
CS Dep. Chem., Univ. Illinois, Urbana, IL, USA
SO Report (1978), Order No. AD-A056590, 36 pp. Avail.: NTIS From: Gov. Rep. Announce. Index (U. S.) 1978, 78(21), 103
DT Report
LA English
:11

L4 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1978:520539 CAPLUS
DN 89:120539
TI Structural and dynamic studies of materials possessing high **energy content**
AU Turro, Nicholas J.
CS Dep. Chem., Columbia Univ., Ithaca, NY, USA
SO U. S. NTIS, AD Rep. (1978), AD-A052936, 13 pp. Avail.: NTIS From: Gov. Rep. Announce. Index (U. S.) 1978, 78(15), 104
CODEN: XADRCH; ISSN: 0099-8575
DT Report
LA English
:ab

L4 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
AB The goal of this research is to provide a theor. and exptl. basis for the understanding of the properties of excited mols. and their emission characteristics. A particular emphasis was directed toward the identification of **chemiluminescent** systems which might have the highest likelihood of providing a framework for the development of operating chem. lasers which emit in the visible spectral range. The thermochem. and photochem. of dioxentanes and of valence isomers of benzene were investigated. The chem. of singlet O is being explored to develop simple and convenient means of producing this species. An important development has been the discovery that the catalytic thermal generation of singlet O from ground state (triplet) O may be feasible. The possibility of using singlet O in developing chem. lasers is also being explored. Finally, the mechanisms of electronic energy transfer and oxidn. in polymers is being

investigated with the goal of providing a fundamental understanding of these processes that will allow the systematic and rational development of strategies for stabilization of polymer systems.

:12

L4 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1975:131546 CAPLUS
DN 82:131546
TI Structural and dynamic studies of materials possessing high **energy content**
AU Turro, Nicholas J.
CS Dep. Chem., Columbia Univ., New York, NY, USA
SO U. S. N. T. I. S., AD Rep. (1974), No. 783262/9GA, 11 pp. Avail.: NTIS, 3.00 dollars
From: Govt. Rep. Announce. (U. S.) 1974, 74(20), 85
CODEN: XADRCH
DT Report
LA English
:13

L4 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1949:26072 CAPLUS
DN 43:26072
OREF 43:4828g-h
TI The prospects of jet-reaction flight. I
AU Saenger, Eugen
SO Journal of the American Rocket Society (1949), No. 76, 27-41
CODEN: JARSA2; ISSN: 0095-9073
DT Journal
LA Unavailable
:14

L4 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
Full Text
AN 1921:14895 CAPLUS
DN 15:14895
OREF 15:2765b-i,2766a-i
TI Chemical kinetics
AU Pratolongo, Ugo
SO Gazzetta Chimica Italiana (1918), 48(I), 121-82
From: Chem. Zentr. 1919, I-II, 421-3
CODEN: GCITA9; ISSN: 0016-5603
DT Journal
LA Unavailable
:ab

L4 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2005 ACS on STN
AB Chem. kinetics constitutes a problem in general dynamics which is connected with statistical mechanics. From the latter point of view the speed of reaction is accounted for as depending upon the no. of mols. whose energy has exceeded a definite critical value. This is the fundamental basis of the work of Marcelin upon this subject, originally developed in Ann. physique (C. A. 9, 1710). The method used in the present paper is the statistical mechanics of Gibbs. As a condition of reaction capacity a fixed mol. energy follows which in this Gibbs system has a precise meaning which should have been given to it formerly. This is designated as crit. energy. For the coeff. of reaction velocity k there is developed the formula in which .psi.o is the av. mol. energy at abs. 0, and .epsilon. the crit. energy at the obs. abs. temp. .theta.. This formula has the form of the exptly. based expressions for the same coeff. derived by van't Hoff and Arrhenius. For increasing temp., the

coeff. of reaction velocity should, according to this formula, increase from zero, reach a maximum and then again asymptotically approach zero. A special role is played in the theory by the difference between the av. mol. energy and the critical energy, .psi.o - .epsilon., which is designated by the name relative critical energy. A break in the temp. curve of the temp. coeff. called for by the theory is too slight to be recognized exptly. The ordinarily expressed ratio of the temp. coeffs. for a rise in temp. of 10.degree. should rise from zero to a very large value and approach the value 1. This is strictly true only for reactions in gaseous systems. The exceptions in aq. soln. are to be ascribed to the abnormality of the solvent, as it shows itself, for example, in the density max. of H2O. At a given temp. the slower reactions, which are characterized by a larger relative critical energy, have the larger temp. coeffs. The formula thus set up for the coeff. of reaction velocity granted, it is at once possible to calc. the relative critical energy for isolated reactions as independent of temp. and, for the isolated reaction as such, entirely characteristic. It expresses the total energy which must be supplied to each mol. in a system in order to take it over from the ordinary to the reactive condition. Thermal units are used for the energy expressions. The highest values of the relative critical energy are obtained for inactivating reactions of org. toxins and enzymes, which can indeed be considered, as typical chem. reactions. The values of the energy increased from 0 to 100,000 but in general are of the order of 104. In addition to the type of reactions just mentioned, others considered in the present paper are vaporization, sublimation, several chem. reactions, photochem. decompns., etc. The temp. interval for each reaction is given, from which the observations have served for calcn. A higher relative critical energy in general corresponds to the gas reactions which go to completion in the absence of a solvent and in the dil. state, than that which corresponds to the same reactions in a solvent, in the presence of a catalyzer, or under the influence of light. For isolated photo-chem. reactions the total energy goes down even to 0. This change in total energy according to the conditions is an indication that the same reaction may omplete itself in very different ways. The typical influence of solvent, catalyzer and light is illustrated by a series of examples, viz.: decompn. of H2O2, hydrolysis of maltose and sucrose, oxidation of HCHO with H2O2, oxidation of HI in aq. soln., action of Cl on C6H6, saponification of the glycerides of AcOH and of Et acetate, lipolysis by pancreas lipase, etc. A diminution in wave length of light results, according to researches on phototropic reactions, in a decrease of the relative critical energy of the reaction. Equilibrium, since it is the point of equality of 2 opposed reaction velocities, may, therefore, be fundamentally considered from the point of view of Gibbs' mechanics. In view of the equality of the crit. energies of the 2 opposed reactions, an equilibrium coeff. of the form + + const. is obtained. Here .psi.1-.psi.2 refers to the heat of reaction within the limits of practicability of the reactions already considered as applying. The catalytic, photochem., and solvent effects which constitute a common group result from a change of the av. mol. energy or critical energy of the reaction by virtue of the presence of these effects. The change of critical energy is characteristic of these effects which change only the velocity, not the equil. Changes also of equil. are detd. by the change of .psi.1-.psi.2. This means that the heat of reaction must also change if the equil. should be affected. The catalytic and related phenomena will be divided into 2 classes, according as the equil. remains unchanged or shifts. Special consideration is given to the so-called poisoning phenomena of catalyzers. This action stands midway between catalytic and enzymic effects. The poison can combine with the reacting substance and thereby give rise to a new reaction designated as parasitic, which seeks to restore the system to its original condition, and by so doing poisons even the catalyst. The poison can be considered as a kind Of powerful and active catalyzer with a smaller value of the crit. energy in proportion to the principal reaction.

A second possibility as to the role of the poison is also considered. Both dispose of the poisons under catalytic actions of the first class. By consideration of poisoning from the standpoint of catalytic reactions of the second class, the possibility of an insight into negative catalysis is presented. Turning to photochem. reactions, the observation serves as a starting point that every photochem. absorption is accompanied by **chemiluminescence**. For the catalytic, photochem. and solvent effects of the first kind it must be accepted that the reduction of crit. energy should be connected with an intermediate reaction. From the standpoint of kinetics several observations are made upon such phenomena as the nascent state, "Rest-strom," overvoltage, etc. It turns out that the Boltzman energy partition, at least in the main, is susceptible of direct exptl. confirmation. In the consideration of the relation of chem. kinetics to thermodynamics, the irreversible chem. processes are classified as a third group to the irreversible and reversible physical processes. In an elementary chem. process it is possible to consider the entropy lowering as measured by the quotient - .psi. - .epsilon./.theta.. A photochem. reaction of the second kind is accepted within the assimilation, which possesses a considerable critical energy-a thing which differentiates it from ordinary photochem. processes. Chem. processes with which here vaporization; sublimation, condensation, etc. may also be reckoned, can be conceived of as a selection among the mols. whereby only those are selected which possess a high **energy content**. Whence the possibility of processes shall be given which proceed with entropy lowering.

	Type	L #	Hits	Search Text	DBs
1	BRS	L1	10642	heating adj1 value	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
2	BRS	L3	32869	(heating or energy) adj1 (value or content)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB

	Time Stamp	Comments	Error Definition	Errors
1	2005/06/22 16:27			
2	2005/06/22 16:35			

	Type	L #	Hits	Search Text	DBs
3	BRS	L4	9672	3 and (fuel or natural adj1 gas or lng)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
4	BRS	L5	77	4 and chemiluminesc$	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
5	IS&R	L6	3	(("6157455") or ("5822058") or ("3950101")).PN.	USPAT

	Time Stamp	Comments	Error Definition	Errors
3	2005/06/22 16:45			
4	2005/06/22 16:43			
5	2005/06/22 16:43			

	Type	L #	Hits	Search Text	DBs
6	BRS	L7	12356	((heating or energy or caloric or calorific) adj1 value).ti,ab.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
7	BRS	L8	0	7 and chemiluminesc$	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB

	Time Stamp	Comments	Error Definition	Errors
6	2005/06/22 16:46			
7	2005/06/22 16:46			

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8	BRS	L9	2545	422/52.ccls. or 250/361C.ccls. or 436/172.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
9	BRS	L10	0	9 and heating adj1 value	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB

	Time Stamp	Comments	Error Definition	Errors
8	2005/06/22 16:47			
9	2005/06/22 16:47			

	Type	L #	Hits	Search Text	DBs
10	BRS	L11	103	9 and (fuel or natural adj1 gas or lng)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
11	BRS	L12	455	9 and (petroleum or hydrocarbon)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB

	Time Stamp	Comments	Error Definition	Errors
10	2005/06/22 16:48			
11	2005/06/22 16:48			

	Type	L #	Hits	Search Text	DBs
12	BRS	L13	493	11 or 12	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
13	BRS	L14	102	13 and (422/52.ccls. or 250/361C.ccls.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB

	Time Stamp	Comments	Error Definition	Errors
12	2005/06/22 16:48			
13	2005/06/22 16:48			

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14	BRS	L15	618	hydrocarbon.ti,ab,clm. and chemiluminesc$	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
15	BRS	L16	71	15 and carbon near5 bond	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB

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14	2005/06/22 17:22			
15	2005/06/22 17:22			

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16	BRS	L17	17	16 and chemiluminesc$.ti,ab,clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
17	BRS	L18	6	16 and chemiluminesc$ same bond	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB

	Time Stamp	Comments	Error Definition	Errors
16	2005/06/22 17:25			
17	2005/06/22 17:23			

	Type	L #	Hits	Search Text	DBs
18	BRS	L19	11	17 not 18	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
19	BRS	L20	54	16 not 17	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB

	Time Stamp	Comments	Error Definition	Errors
18	2005/06/22 17:26			
19	2005/06/22 17:28			

	Type	L #	Hits	Search Text	DBs
20	BRS	L21	641	422/52.ccls. or 250/361C.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
21	BRS	L22	5	21 and hydrocarbon.ti,ab.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB

	Time Stamp	Comments	Error Definition	Errors
20	2005/06/22 17:28			
21	2005/06/22 17:29			

	Type	L #	Hits	Search Text	DBs
22	BRS	L2	42	1 and chemiluminesc$	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
23	BRS	L23	8	("6157455").URPN.	USPAT
24	BRS	L24	0	23 and chemiluminesc?	USPAT
25	BRS	L25	7	("5822058").URPN.	USPAT
26	BRS	L26	0	25 and chemiluminesc?	USPAT
27	BRS	L27	11	("3950101").URPN.	USPAT
28	BRS	L28	0	27 and chemiluminesc$	USPAT

	Time Stamp	Comments	Error Definition	Errors
22	2005/06/22 17:32			
23	2005/06/22 17:35			
24	2005/06/22 17:35			
25	2005/06/22 17:37			
26	2005/06/22 17:37			
27	2005/06/22 17:39			
28	2005/06/22 17:39			